

Professionalism, Golf Coaching and a Master of Science Degree

A Commentary

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INTRODUCTION

The expansion of sporting organisations, like the Professional Golfers' Association (PGA) of America and the establishment of International partnerships, like the PGA World Alliance provide evidence for the continued professionalization of golf. Nevertheless, despite the founding of a number of organisations that support the education of golf teachers, there is currently a paucity of programs that specialise in the advancement of golf coaches. While the terms "teacher" and "coach" are often used synonymously in day-to-day life, the World Golf Coaches Alliance (WGCA) outlines that golf coaches help golfers to compete either individually or as part of a team, while golf teachers provide instruction on how to play the game. The stimulus article by Dr Simon Jenkins provides evidence that effective coaching requires a balanced approach that brings together the science and art of golf and outlines a framework for a proposed Master of Science in Golf Teaching/Coaching program.

ENHANCING THE PROFESSIONALISM OF GOLF COACHES

For many decades, golfers, coaches and scientists alike have sought after the perfect golf swing; one that maximises performance, minimises injury risk and can be seamlessly adapted to different playing conditions. This pursuit has ultimately inspired the authoring of classic texts, such as "The Search for the Perfect Swing" [1] and "The Science of the Golf Swing" [2] and countless peer-reviewed articles targeting key performance measures (e.g. [3-5]) and specific injury risk factors (e.g. [6-9]). While these resources have added considerably to our understanding of the golf swing, Dr Jenkins postulates that truly great coaches will use this information to guide his/her coaching approach rather than to define it. As evidenced by Sean Foley's methods for coaching tour players, enhancing the professionalism of current and future golf coaches involves promoting a balanced style of coaching that draws from the principles of golf science, while addressing the individual needs of a player. In the absence of any pre-existing support programs for current golf coaches, the Master of Science in Golf Teaching/Coaching program proposed by Dr Jenkins would provide a unique and exciting opportunity for these professionals to extend their skills.

However, in offering such a program it would be essential to incorporate components that empower coaches to proactively seek to update this knowledge and to think critically about the existing science. These attributes will serve to foster the development of an understanding that the science of golf is ever-changing and its evolution is largely driven by new developments in technology and the changing skills and attributes of next generation golfers. For example, until the early 2000's research postulated that weight shift patterns during the golf swing should involve the centre of mass moving towards the trail foot (right in right-handed golfers) during the backswing and towards the lead foot during the downswing and follow-through [10-14]. On the basis of this understanding, as many as 84% of amateur golfers who did not transfer their weight in this fashion [15, 16] were deemed to have incorrect weight shift patterns. However, more recently this notion was challenged by Ball and Best [17, 18], who used a specialised statistical procedure known as cluster analysis to

identify two distinct and equally effective patterns of weight shift within a population of golfers. The 'front foot' style involved weight being transferred from the trail foot to the lead foot during the downswing, with the majority of the weight on the lead foot at ball impact and throughout the follow-through. Conversely, the 'reverse' style involved an initial weight shift toward the lead foot during the early downswing, even weight distribution at ball impact and a reversal of weight transference toward the trail foot during the follow-through [17, 18]. Although swing kinematics and ball flight information were not assessed, players who adopted the 'reverse' style had similar handicaps and produced equivalent peak club head velocities when compared to golfers who used the 'front foot' style, suggesting that both techniques offer similar performance benefits to a golfer.

However, this conclusion may be short-sighted and leads to a second important component that should be emphasised as part of the Master of Science in Golf Teaching/Coaching program and that is the relationship between performance enhancement and injury risk. Previous research suggests that as many as 89% of professional golfers [19, 20] and 62% of amateur golfers [20, 21] develop at least one injury during their playing career. In 2008, Dr Jenkins prepared a comprehensive review of the literature that highlighted the general lack of consensus amongst members of the scientific and coaching communities regarding optimal patterns of weight transfer during the golf swing [22]. Of the techniques promoted in the coaching literature, the 'Stack and Tilt' style [23] is arguably the most controversial, as it discourages weight shift toward the trail foot and promotes maintaining body weight over the lead foot throughout the swing. To minimise weight shift, this technique involves tilting the lead shoulder towards the ground and straightening the knee of the trail leg during the backswing, both of which serve to keep a player over the ball during the swing [23]. However, there is currently little scientific evidence to show whether the 'Stack and Tilt' style offers any significant performance benefits over more traditional techniques and, more importantly, whether there is any increased injury risk associated with these technical differences. As such, while restricting the movement of the lower body during the golf swing may help to minimise swing errors for some players, it is also possible that this technique leads to abnormal loading patterns in the joints of the lower limb; a point that was noted in a commentary article by David Lindsay in 2008 [24].

With the continued professionalization of the game, the livelihoods of many professional golfers rely on their ability to play, which emphasises the importance of injury prevention for these individuals. Therefore, a good golf coach must also have the capacity to consider how a technical change that improves a player's driving distance, for example, may alter the biomechanical stresses that the repeated performance of the golf swing places on the body. Unfortunately, there are still many gaps in our understanding of the mechanisms of golf-related injuries and this is largely due to the multifaceted nature of the problem. The physiology and biomechanics units associated with the Master of Science in Golf Teaching/Coaching program would provide an important opportunity to highlight the association between performance and injury to emerging coaches and to emphasise the benefits of coaches working as part of a multi-disciplinary team.

CONCLUSION

The stimulus article by Dr Jenkins provides a succinct, yet thorough account of the key developments that have contributed to the professionalization of golf and highlights the lack of organised support and educational programs for golf coaches. The proposed Master of Science program has the potential to enhance the professionalism of current and future coaches by offering a unique blend of units that cover aspects of education, philosophy,

science, reflective practices and management. In light of the support that administering bodies offer to the sport and its players and the growth that is expected in response to the Golf 2.0 initiative, programs that offer education and up-skilling for golf coaches are increasingly needed. With careful consideration for the types and depth of information to be included in the unit areas outlined by in Dr Jenkins' stimulus article, the Master of Science in Golf Teaching/Coaching program would serve to bridge this gap.

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